KEDGE BUSINESS SCHOOL

2021_S02_PGE_M1_OPS_0606_E_L_BOD

SUSTAINABLE SUPPLY CHAIN MANAGEMENT

Semester 2, 2020 – 2021

COORDINATOR	Yann Bouchery
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OFFICE HOURS	Contact the coordinator by email to settle an appointment

COURSE DELIVERABLE	DUE DATE	WEIGHT ON FINAL GRADE
SC carbon footprint case study (GW)	Sessions 5&6	20%
LCA presentations (GW)	Sessions 9&10	20%
Final Exam (IW)	Sessions 19&20	60%

GW : Group work

IW : Individual work

Kedge Business School and its professors, encourage you to use your Pro-Acts, company projects and internships as privileged opportunities to apply the reflexions, theories, concepts and tools presented during this course

INTRODUCTION AND OBJECTIVES

Course Purpose & Objectives

In order to not compromise the standards and health of future generations, substantial improvements in the efficiency of the use of natural resources and reduction of the wastes and emissions generated through their use, are required. Supply chains play a critical role in achieving those improvements. The objective of the course is to introduce the approaches that help improving the environmental and social sustainability of supply chains. Through this course, the students are expected to develop:

- an understanding of some of the basic tools and techniques used to analyse the sustainability of supply chain activities;
- an understanding of the key drivers of the sustainable supply chain performance;
- an understanding of the relationship between supply chain decisions through the entire product/service life cycle;
- the capability of determining the main trade-offs involved and their impact in the sustainable supply chain performance.

Courses contribution to program objectives

We will go over some important issues of sustainable supply chain management and how it connects to the main performance drivers. Thus, the main contribution is to allow students to bring the strategic discussion to the tactical/operational room where shorter-term decisions are made. Consequently, this course will help students to improve in following learning goals:

- PGE1: Understand and Integrate Core Management Disciplines
- PGE2: Demonstrate Communication, Interpersonal and Leadership Skills
- PGE3: Develop a Strategic Perspective
- PGE7 Provide Value to the Business Community in a chosen Area of Specialization

Course Contribution to Application of Critical Thinking

The main focus of the course will be in developing intuitions for some complex issues encountered in sustainable supply chain management. Some games and case study will reinforce the students' ability to bridge the gap between theory and practice. The students will additionally develop their critical thinking about recent developments in the field.

Courses description

The course will introduce and provide some basic concepts related to the following topics:

- ✓ Introduction to sustainability in supply chains,
- ✓ Performance measurement for sustainable supply chains,
- ✓ Supply Chain carbon footprinting case study
- ✓ Life Cycle Analysis,
- ✓ Sustainable inventory models,

- ✓ Sustainable Production Systems,
- ✓ Green logistics and sustainable transportation,
- ✓ Circular Economy and Reverse Supply Chains,
- ✓ Logistics implications of reusable packaging solutions.

COURSE MATERIAL

Textbooks

Sustainable Supply Chains. A Research-Based Textbook on Operations and Strategy. Editors: Bouchery, Y., Corbett, C.J., Fransoo, J.C., Tan, T. (Eds.)

Chapter 1 in Scott, C., Lundgren, H., Thompson, P. (2011) Guide to Supply Chain Management, Springer (ISBN 978-3-642-17676-0)

Additional reading

Construire avec succès une supply chain durable, Anicia Jaegler et Thierry Roques, Ellipes.

Andel T. Reverse logistics: a second chance to profit. Transportation & Distribution. 1997; Vol. 38.

Ansari ZN, Kant R. A state-of-art literature review reflecting 15 years of focus on sustainable supply chain management. Journal of Cleaner Production. 2017 1;142:2524–2543. https://linkinghub.elsevier.com/retrieve/pii/S0959652616318613.

Eskandarpour M, Dejax P, Miemczyk J, Peton O. Sustainable supply chain network design: An optimization-oriented review. Omega. 2015;54:11–32. Available from:http://dx.doi.org/10.1016/j.omega.2015.01.006.

Govindan K, Soleimani H, Kannan D. Invited Review Reverse logistics and closed-loop supply chain: A comprehensive review to explore the future. European Journal of Operational Research.2015;240:603–626? http://dx.doi.org/10.1016/j.ejor.2014.07.012.

Ilgin A.M, Gupta SM. Environmentally conscious manufacturing and product recovery (ECMPRO): A review of the state of the art. Journal of Environmental Management. 2009;91:563–591.

Rajeev A, Pati RK, Padhi SS, Govindan K. Evolution of sustainability in supply chain management: A literature review. Journal of Cleaner Production. 2017 9; 162:299–314. Available from:https://linkinghub.elsevier.com/retrieve/pii/S0959652617309514.

Kadambala DK, Subramanian N, Tiwari MK, Abdulrahman M, LiuC. Closed loop supply chain networks: Designs for energy and time value efficiency. International Journal of Production Economics. 2017.

Sazvar Z, Rahmani M, Govindan K. A sustainable supply chain for organic, conventional agro-food products: The role of demand substitution, climate change and public health. Journal of Cleaner Production. 2018.

COURSE CONTENTS AND TIMETABLE

SESSIONS	TOPIC	PRELIMINARY READING(S) AND ASSIGNMENTS
01 & 02	**Course introduction + Intro to Sustainable Supply Chains + performance measurement for Sustainable SC**	Read Chapter 1 of the textbook + Read Chapter 1 of "Guide to Supply Chain Management"
03 & 04	**Introduction to LCA**	Read Chapter 2 of the textbook
05 & 06	**SC carbon footprint case study**	Read Chapter 3 of the textbook
07 & 08	**Oral presentations on LCA + Carbon footprinting in SC**	Prepare the oral presentation
09 & 10	**Sustainable inventory models + supply chain collaboration and sustainability**	Read Chapter 8 of the textbook
11 & 12	**Green logistics and sustainable transportation**	Read Chapter 7 of the textbook
13 & 14	**Sustainable Production Systems: social and environmental dimensions**	Read Chapter 12 of the textbook
15 & 16	**Circular Economy and Reverse Supply Chains**	Read Chapter 17 of the textbook
17 & 18	**Logistics implications of reusable packaging solutions + Q&A for final exam**	Prepare questions
19 & 20	**Final exam**	Exam on the entire content of the course

TEACHING APPROACH/ INSTRUCTIONAL METHODS

A Word of Advice

This course is fast-paced and students are encouraged to carefully prepare each session in advance (see PRELIMINARY READING(S) AND ASSIGNMENTS). We will focus on theoretical results and will reinforce them in classroom before having the opportunity to use those results games and case studies. We expect students to conduct themselves according to the highest ethical standard. We will check for plagiarism and any other form of substandard activity in classroom or related to classroom.

Participation

At individual level students are requested to contribute positively to the learning experience through giving examples, helping in explaining concepts, and participating in the discussions and provide answers to exercises. No marks are specifically given for this activity.

Individual work

There are no individual assignments other than the final exam.

Group work

Several group works (case studies, oral presentations, games) will take place. Some of those activities will be graded. If you believe your team mate has not contributed as much as you have then you should write an email message to the instructor with a small explanation for why you believe the team mate has not contributed in equal terms.

Methods Used to Evaluate Student Performance

Individual Assignments (60%)

Assessment Criteria

Topic	Marks	Criteria
Final exam	**60%**	**Answer question correctly.**

Collective assessment (40%)

Assessment Criteria

Section	Marks	Criteria
Group project	**40%**	
Case study on carbon SC carbon footprint	20%	The student identifies an exhaustive source of unsustainability of the company. He classifies strategically the emissions. The student develops comprehensive alternatives. They are evaluated and prioritized according to criteria explicitly justified. The student proposes several approaches to measuring sustainability goals and adapts to each representative governance. It prioritizes scenarios and offers a reading grid preparing the decision.
Oral presentation on LCA	20%	Only the slides will be evaluated based on their quality and pertinence. The two main criteria for pertinence are the ability of highlighting key elements and the pedagogical quality.

Anicia Jaegler received a diploma in engineering, the Ph.D. degree from the Ecole des Mines de Saint-Etienne, Saint- Etienne, France, and an HDR (post-doctoral diploma) from the CRETLOG, University Aix-Marseille, Marseille, France. Over the years, she taught at the university level courses on supply chain management, operations strategy, international logistics, and sustainable supply chains. Since 2018, she has been leading the Operations Management and Information System. Her current research focuses on sustainable supply chain management.

Saoussane Srhir is a research assistant and doctoral student in the field of Sustainable Supply Chains at Kedge Business School and at La Sabana University in Colombia. After completing her degree in international management at EM Lyon Business School in France, her curious and adventurous spirit took her to Turkey, to Istanbul, where she obtained her two masters. The first in financial economics at Bahcesehir University in 2017, and the second obtained with excellence in production management, after having written a dissertation entitled "The integration of Blockchain in supply chain management" at the University of Marmara in 2020. Observation and analysis are her assets for further research. She believes that we are part of a time when technology is the driving force behind the success of any organization. Blockchain is one of the technologies that interests her. Her research areas will revolve around sustainable supply chains, supply chain management, business management, logistics and Blockchains.

Daniil Khachai has got his Master Degree from Ural Federal University in 2019 and started his PhD thesis at Kedge in 2020 under supervision of Prof. Olga Battaïa. The topic of his research concerns the optimization of Supply Chain Design and Operations. He has co-authored several papers published in peer-reviewed journals, conferences and workshops in the area of Operation Research, Data Mining, and Machine Learning. He was a speaker at several international conferences.

Yann Bouchery is Associate Professor in Operations Management and Head of the Center of Excellence in Supply Chain at Kedge Business School. He holds a PhD in Industrial Engineering from Ecole Centrale Paris (France) obtained in 2012. Before joining Kedge Business School in 2019, he spent two years at Eindhoven University of Technology (The Netherlands) and five years at EM Normandie. His research interests focus on sustainable operations management and logistics and on the management of transportation systems in the hinterland of deep-sea ports. His work is published in international journals such as Production and Operations Management, European Journal of Operational Research, Transportation Science, International Journal of Production Economics. He has also co-edited a book entitled « Sustainable Supply Chains : A Research-Based Textbook on Operations and Strategy ».

ACADEMIC FRAUD

Definition

Academic fraud is a breach of ethics.

"Is achieved using unfair means or deception, to obtain material or undue moral advantage, or with the intent to avoid the enforcement of laws". (Translated from the original source: Dictionnaire Juridique des Lois, 2010, available at: www.dictionnaire-juridique.com/definition/fraude/php)

Plagiarism consists of attributing authorship by (partial or total) copying, imitation or misappropriation.

The act of fraud is committed by one or more students/participants when they:

- appropriate written or oral work to themselves when they are not the author (in whole or in part) of the work, by omitting any references or quotations to the author or to the owner of the work;
- present any data that has been falsified or invented in any way;
- use the identity of the author, attributing the contents of and/or a resource to him/her, but without explicitly mentioning that they are not the author;
- appropriate the creative work of someone else and present it as their own;
- acquire exerts of texts, images, results etc. from external sources by including them in their own work without mentioning the origins of the exerts;
- summarise the original idea of an author by expressing it in their own words but omit quoting the source;
- cheat in an academic evaluation.

Plagiarism can occur in:

- an academic article or book;
- an exercise or a case study;
- a study or a report;
- a dissertation or a thesis;

- any document of which the student/participant is not, but purports to be the author.

Sanctions

Any student/participant having committed academic fraud, or having participated in it, will be sanctioned by the professor in charge of the course. The professor can apply 1st and 2nd level sanctions (detailed below). The professor will send a copy of the sanction to the student's/participant's programme. The student/participant will be informed/and or convoked by the programme director (or his/her representative) to a hearing prior to the possible convening of the Kedge Business School Disciplinary Council. In the case of a hearing of the Disciplinary Council, they can decide to apply 3rd and 4th level of sanctions.

Any student/participant guilty of academic fraud will receive one of the following sanctions:

- Applied by the professor in charge of the course, Kedge Business School faculty member (1st and 2nd level):
  - A grade of zero for the work concerned and a formal warning;
  - A grade of zero for the course or module concerned and a formal warning.
- Applied by Kedge Business School's Disciplinary Council (3rd and 4th level):
  - Suspension from the programme for one or two semesters;
  - Exclusion from the programme.

N.B.: Plagiarism within a partner institution can result in these sanctions being applied by Kedge Business School, notwithstanding partner's decision.